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ABSTRACT

The Attribution Style Questionnaire (ASQ) is a short (36-item) objective inventory which assesses cognitions regarding responsibility for bad and good outcomes relevant to cognitive models of depression. Three alternative scoring systems have been proposed; no scoring system has been empirically verified. Convergent and discriminant validity have been demonstrated. In the present study, data from a mixed-sex sample group of 328 volunteer subjects were employed to assess the internal validity of the ASQ and to determine which of the proposed scoring systems, if any, is empirically supported. A principal components analysis resulted in two clearly interpretable components. The first component was comprised of internality, stability, and globality ratings for good outcomes (Good Composite); the second component was comprised of internality, stability, and globality ratings for bad outcomes (Bad Composite). Results generally corroborate the proposed two-dimensional structure and scoring system. However, internal consistency is only moderate and response biases appear to be inadequately controlled. Contrary to the pivotal role theoretically attributed to perceived internality for negative outcomes, internality attributions do not substantially contribute to the empirically derived Bad Composite scale. (Author)

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COMPONENT STRUCTURE OF THE ATTRIBUTION SYTLE QUESTIONNAIRE

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Component Structure of the Attribution Style Questionnaire

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Results generally corroborate the proposed two-dimensional structure and scoring system. However, internal consistency is only moderate and response biases appear to be inadequately controlled. Contrary to the pivotal role theoretically attributed to perceived internality for negative outcomes, internality attributions do not substantially contribute to the empirically derived Bad Composite scale.

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Component Structure of the Attribution Style Questionnaire

Conservative estimates of the incidence of depression indicate that 12% of the adult population in the United States will have a depressive episode of sufficient severity to warrant treatment (Beck, 1973). Moreover, suicide ranks tenth on the list of causes of death among adults in the United States (second among college students, surpassed only by accidents), and the vast majority of people who commit suicide suffer some degree of depression (Grollman, 1971). In response to the urgent need to reduce the suffering and loss of life associated with depression, extensive research and applied efforts have been devoted to early identification, treatment, and prevention of depressive disorders (Albee & Joffe, 1977; Beck & Beck, 1972; Beck, Rush, Shaw, & Emery, 1979; Depue, 1979).

The centrality of hopelessness, perceived helplessness, and self-defeating cognitions in the etiology and persistence of depression has been emphasized by numerous clinicians and researchers (Akiskal, 1979; Beck et al., 1979; Bowlby, 1980; Ellis, 1973; Frankl, 1960, 1963; Seligman, 1975). One such conceptualization -- the learned helplessness model -- asserts that depression-prone individuals are characterized by a cognitive style whereby responsibility for negative events is attributed to internal, stable, and global factors, and responsibility for positive events is attributed to external, unstable, and specific factors (Abramson, Seligman, & Teasdale, 1978; Garber, Miller, & Seaman, 1979). Consistent with this conceptualization, individual differences in attributional style have been shown to predict which subjects develop depressive symptomatology when subsequently faced with real-life negative events (Golin, Sweeney, & Shaeffer, 1981; Semmel, Peterson, Abramson, Metalsky, & Seligman, 1980), and depressed individuals have been shown to experience significant symptom reduction following treatment aimed at altering "faulty" cognitions (Beck et al., 1979; Garber et al., 1979; Lazarus, 1968; Mahoney & Arnkoff, 1978).

Such cognitive models of depression, which identify risk factors potentially accessible to group assessment and re-education, suggest promising applications for large-scale intervention and prevention efforts. Unfortunately, however, empirical quantification of essential constructs underlying cognitive models of depression has lagged behind theoretical advances, thus limiting the reliability and generalizability of research aimed at evaluating predicted relationships among cognitive processes, depressive symptomatology, and specific treatment approaches.

The Attribution Style Questionnaire (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) is one of the few self-report

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inventories designed to assess cognitions regarding perceived responsibility for bad and good outcomes. It consists of 12 hypothetical situations, half of which describe bad outcomes and half of which describe good outcomes; the situations are further subdivided into those describing affiliation themes and those describing achievement themes. Respondents are asked to imagine themselves in each of the situations and to identify the major cause of the outcomes described; they are then asked to rate each cause on a 7-point Likert-type scale in terms of internality (totally due to self vs. totally due to others), stability (will always be present vs. will never again be present), globality (affects all situations in one's life vs. affects only this situation), and importance. The response format thus allows objective quantification of subject-generated attributions, rather than constraining subjects' responses to a limited set of predetermined options.

Three different scoring systems have been proposed (Peterson et al., 1982). A two-scale scoring system yields separate scores for bad and good outcomes by summing internality, stability, and globality ratings across bad outcomes (Bad Composite) and, independently, corresponding ratings across good outcomes (Good Composite). Alternatively, a six-scale scoring system results in separate scores for each attributional dimension with respect to each outcome (e.g., internality for bad outcomes). Finally, a twelve-scale scoring system yields separate scores for each attributional dimension with respect to each outcome and theme (e.g., internality for bad outcomes for affiliation themes). The two-scale, Bad-Good Composite scoring system is advocated by Peterson et al. (1982); however, only minimal empirical support for this choice is provided.

Normative statistics for the ASQ, based on responses obtained from a mixed-sex sample group of students, were reported by Peterson et al. (1982). Composite scales demonstrated moderate reliability, with Bad and Good Composite scales having achieved alpha coefficients of .72 and .75, respectively (Peterson et al., 1982). Additional scales demonstrated less adequate reliability; scales comprising the six-scale scoring system achieved a mean alpha level of .54, while scales comprising the 12-scale scoring system achieved a mean alpha level of .38.

Several lines of research have provided evidence of the ASQ's criterion and discriminant validity (Peterson & Seligman, 1980). For example, Seligman, Abramson, Semmel, and von Baeyer (1979) reported that the Bad Composite scale correlates .48 with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Utilizing an alternate approach, Raps, Peterson, Reinhard, Abramson, and Seligman (1982) demonstrated that hospitalized unipolar depressed patients

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obtained significantly higher internal, stable, and global scores for bad outcomes (and higher external, unstable, and specific scores for good outcomes) than schizophrenic and surgical patient comparison groups. Finally, longitudinal studies have demonstrated an association between ASQ scores and the subsequent development of depressive symptomatology (Abramson et al., 1978; Golin et al., 1981; Peterson & Seligman, 1980; Semmel et al., 1980). For example, Semmel et al. (1980) demonstrated that high initial Bad Composite scores (and to a lesser extent, low initial Good Composite scores) were associated with the development of depressive symptomatology in students subsequently faced with real-life experiences having negative outcomes.

In contrast to the substantial efforts devoted to demonstrating the ASQ's external validity, no studies documenting its internal or component structure have been reported, and none of the proposed scoring systems have been empirically verified. The purpose of the present study, then, is to investigate the ASQ's component structure and determine which of the proposed scoring systems, if any, is empirically supported.

Method

Subjects and Procedure

The sample was comprised of 328 undergraduate volunteer subjects, 205 women and 123 men, in attendance at a northeastern state university. The majority of subjects were white and middle class, and all were at least 18 years of age. Subjects were solicited during regularly scheduled class meetings and obtained extra credit points in exchange for participation. The ASQ was administered during a prescheduled data-collection session in the context of a comprehensive questionnaire assessing a broad range of demographic and psychosocial variables.

The Instrument

The Attribution Style Questionnaire (Peterson et al., 1982) is a self-report instrument which consists of 12 hypothetical situations, 6 describing bad outcomes and 6 describing good outcomes. Subjects are asked to imagine themselves in each of the situations and to name the major cause of the outcomes described; they are then asked to rate each cause on a 7-point Likert-type scale in terms of internality, stability, and globality, and to rate each situation on a similar scale in terms of its importance to them. Three potential scoring systems have been proposed, but the recommended system yields two scores -- one combining internality, stability, and globality attributions for bad outcomes (Bad Composite) and one combining corresponding attributions for good outcomes (Good Composite).

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Results

Component Structure

A principal components analysis was applied to the 36x36 matrix of intercorrelations computed on ASQ internality, stability, and globality ratings for each of the 12 situations. Velicer's (1976; Zwick & Velicer, 1982) Minimum Average Partial Correlation (MAP) criterion was used to determine the number of components retained, and a Varimax rotation was performed on the resulting component pattern.

Two components emerged which accounted for 21% of the total variance. Twelve of the 36 items failed to achieve a loading greater than .30 on either component, and no items obtained substantial loadings on both components. Table 1 presents the two situations contributing the highest loadings on each of the two components and a listing of additional items allocated to each component.

The first component was comprised exclusively of items assessing attributions for good outcomes and overlapped substantially with Peterson et al.'s (1982) Good Composite scale. Items which were expected to contribute to this component (internality, stability, and globality attributions for good outcomes) obtained loadings ranging from .24 to .65, with the majority achieving loadings exceeding .50.

The second component was comprised entirely of attributions for bad outcomes and overlapped moderately with Peterson et al.'s (1982) Bad Composite scale. Items which were expected to contribute to this component (internality, stability, and globality attributions for bad outcomes) obtained loadings ranging from .05 to .58, with the majority achieving a loading greater than .30. Contrary to Peterson et al.'s (1982) conceptualization of the Bad Composite scale, none of the items assessing internality attributions achieved a substantial loading on this component.

Scale Scores and Reliability

Although one-third of the items failed to contribute substantially to the component to which they theoretically belong, the majority of these items obtained loadings on the predicted component approaching significance, and no item contributed negatively to its theoretical component. Therefore, Good and Bad Composite scale scores were obtained by calculating the unweighted sum of items allocated to each component according to the scoring system recommended by Peterson et al. (1982); that is, by summing all responses associated with good outcomes and, independently, all responses associated with bad outcomes. Table 2 presents mean scale scores, standard deviations, and alpha coefficients obtained by the present sample group for Good and Bad Composite scales.

Summary statistics indicate that both scale scores were skewed in

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Table 1

Two Situations with Highest Loadings on Two Varimax Rotated Components for the Attribution Style Questionnaire (n = 328)

Situation/ Item Number	Item	Component Loading
Component I. Good Composite		
Situation:	YOU GET A RAISE.	
57.	Is the cause of your getting a raise due to something about you or something about other people or circumstances?	.62
58.	In the future on your job, will this cause again be present?	.63
59.	Is this cause something that just affects getting a raise or does it also influence other areas of your life?	.65
Situation:	YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY AND YOU GET IT.	
47.	Is the cause of your getting the position due to something about you or something about other people or circumstances?	.54
48.	In the future when applying for a position, will this again be present?	.59
49.	Is the cause something that just influences applying for a position or does it also influence other areas of your life?	.59
Additional Items -- 2, 3*, 4*, 12*, 13*, 14, 27, 28, 29, 42, 43, 44.		
Component II. Bad Composite		
Situation:	YOU GO OUT ON A DATE AND IT GOES BADLY.	
52.	Is the cause of the date going badly due to something about you or something about other people or circumstances?	.25
53.	In the future when dating, will this cause again be present?	.57
54.	Is the cause something that just influences dating or does it also influence other areas of your life?	.58

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Table 1 Continued

Situation/ Item Number	Item	Component Loading
Situation:	YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.	
22.	Is the cause of the audience reacting negatively due to something about you or something about other people or circumstances?	.26
23.	In the future when giving talks, will this cause again be present?	.49
24.	Is this cause something that just influences giving talks or does it also influence other areas of your life?	.56
Additional Items -- 7*, 8, 9*, 17*, 18, 19*, 32, 33, 34, 37*, 38, 39.		

Note. Items without asterisks obtained loadings > .30.

* Indicates items with loadings < .30.

Item numbers correspond to items as presented by Peterson et al. (1982).

Table 2

Mean Scores, Standard Deviations, and Alpha Coefficients for Two ASQ Composite Scales (n = 328)

Scale Name	Range of Scores	M	SD	Alpha
Bad Composite	18-126	71.4	10.9	.64
Good Composite	18-126	94.4	11.8	.77

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the direction of high internality, stability, and globality, consistent with summary statistics previously reported for nondepressed sample groups (Peterson et al., 1982). While the Good Composite scale obtained a coefficient alpha of .77, demonstrating moderate reliability, the Bad Composite scale obtained a coefficient alpha of .64, indicating less adequate reliability than was originally apparent based on Peterson et al.'s (1982) data. The two scales obtained a Pearson product-moment correlation coefficient of .00, corroborating the lack of relationship between Good and Bad Composite scales.

Discussion

The results of this study indicate that the ASQ is comprised of two empirically distinct components, the first of which represents attributions for good outcomes, and the second of which represents attributions for bad outcomes. The empirical structure, then, generally corroborates the theoretical two-dimensional structure and scoring system proposed by Peterson et al. (1982).

However, one third of the items failed to obtain substantial loadings on the component to which they theoretically belong, and both components evidence only moderate internal consistency. Moreover, a large percentage of the scale's total variance is unexplained by empirically derived components, suggesting that response styles and biases substantially influence ASQ responses. These findings indicate that the reliability and validity of the ASQ might be improved by: (a) modifying individual items to more accurately reflect theoretical constructs of internality, stability, and globality; and (b) modifying the response format to more effectively control for a potential problem with response biases.

Finally, the fact that internality attributions do not substantially contribute to the empirically derived Bad Composite component raises significant questions as to: (a) whether the ASQ actually assesses internality; and (b) whether internality, in fact, comprises an essential attributional dimension characterized by meaningful variability across individuals. Given the pivotal role attributed to perceived internality of responsibility for negative outcomes in the learned helplessness paradigm, subsequent research is warranted to determine if the structure documented in this study is replicated in independent sample groups and to resolve the substantive questions prompted by present findings.

Conclusion

In sum, present results generally substantiate the theoretical two-dimensional structure of the ASQ proposed by Peterson et al. (1982).

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However, Bad and Good Composite scales demonstrate only moderate internal consistency, and response biases appear to be inadequately controlled. Additionally, the finding that internality attributions contribute only minimally to empirically derived components is contrary to the importance attributed to internality in theoretical conceptualizations of learned helplessness and, in turn, the ASQ.

Future research with the ASQ should be directed toward: (a) suppressing the influence of response biases; (b) improving the scales' reliability; (c) resolving discrepancies between the scale's theoretical structure and the empirically derived structure; and (d) examining implications of present findings for the learned helplessness model of depression.

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